SECTION II - PREPARATION OF PLANS

II-I. GENERAL:

Complete plans and specifications for all proposed streets, drainage facilities, sewerage, water distribution systems, industrial and commercial development and subdivisions, including any necessary dedications and easements shall be submitted to the Engineer for approval and must receive the required approval prior to the beginning of construction of any such improvements. A Development Agreement, Performance Bonds and Labor and Materialman's Bonds may also be required as necessary to guarantee compliance to the approved plans. Plans not conforming to the normal standards of quality, completeness and neatness (including supporting calculations) may be rejected.

The City's approval of any plans and specifications does not constitute approval of any feature of the plans that are contrary to, in conflict with or do not conform to any Federal or State law, City Ordinance or Resolution, or generally accepted engineering practice, in keeping with the standards of the profession, even though such errors, omissions or conflicts may have been overlooked in the review of the plans.

Where the improvement plans submitted for approval cover only a portion of the ultimate development, the plans submitted must be accompanied by the approved overall tentative plan, or a study plan if there is no approved overall tentative plan, showing topographic features of the ultimate development at an adequate scale to clearly show the proposed improvements.

II-2. DESIGN ALTERNATIVES:

Design alternatives shall be requested in writing and may be approved by the City Engineer where the proposed alternate provides the same level of service, approximately the same estimated maintenance costs, and is not adverse to public health, safety and welfare. This provision is intended to provide for some flexibility in designing bikeways, pedestrian paths and equestrian paths; when an area specific plan has been approved showing an alternate to the standard drawings, or where appropriate in order to provide compatibility with adjacent areas.

II-3. PLAN DETAILS:

1. Title Sheet - A title sheet is required on all sets of improvement plans greater than four (4) sheets. The title sheet must include a key map of the entire project area with boundaries, city limits, and street names clearly shown. The title sheet must also include an index of sheets; the consultant's name, Professional Registration number, signature and expiration date; the tract or parcel map number; vicinity map; the date and scale of the drawing; and the blocks for the necessary approval of the City Engineer and Plan Checking Engineer.

2. Sheet Size and Scale - Plans shall be prepared on 4 MIL Mylar. Sheets shall be 24" x 36" standard plan and profile. Desirable scales are horizontal 1" = 40' with vertical of 1" = 4'. Scale may be varied in rough terrain.

3. Title Blocks - Each sheet of the set of drawings shall have the City standard Title Block.

4. Stationing and Orientation - The stationing on plan and profile shall read from left to right. When a previously designed project within or immediately adjacent to the new project is used as basis of design, plans should use the same stationing of the previous plan or an equation to said previous stationing. Insofar as practical, the plans shall be so

arranged that the north arrow is either pointed toward the top or to the (right) edge of the sheet. All lettering and dimensions should be read from the bottom or right margins.

5. Right-Of-Way - Right-of-way lines, the boundaries of lots fronting on the street, drainage easements, utility easement lines and temporary construction easements both existing and proposed shall be properly dimensioned and referenced to official county record.

6. Existing Features - All pertinent topographic features which may affect the design, construction, and operation of the improvement shall be shown on the plans, including, but not limited to the following: street lines, curbs, sidewalks, shoulders, location and size of storm and sanitary sewer lines, flood plain (100-year) water and gas lines, existing structures, fences, houses, trees, and other foliage, drainage ditches, utility poles, fire hydrants, and all other features both on and adjacent to the property which may affect the design requirements for the area. Also, the exact location, trunk diameter and drip line (to scale) of all Oak trees and other specimen trees having a trunk diameter of at least 3-inches (76.2 mm) shall be accurately identified.

7. Details - The plans shall include a sheet(s) which shall show the following:

   a. Typical street and road cross sections including curb, gutter and sidewalk.

   b. Detail of all concrete structures.

   c. Miscellaneous special details.

   d. Miscellaneous details - street signs, monuments, etc.

8. Special Notes - Refer to other plans and cross-reference between streets. All references to other approved plans shall be clearly noted. All continuations of streets, water lines, sewer, storm drains, grading, etc., shall be cross-referenced. Stationing shall be along the centerline of construction of each pipeline and should correspond with stationing established by referenced plans.

II-4. GRADING PLAN ON SEPARATE SHEET(s):

1. Show typical sections between all adjacent lots and between subject property and adjoining properties. (See Standard Drawing No. M-2).

2. Show existing contours of the property and surrounding properties so as to adequately represent existing drainage patterns.

3. Indicate pad and street elevations and typical lot section to demonstrate potential fall from furthest point of pad to street.

4. Show all existing site features including precise location of all building structures, trees, poles, septic tanks/leach fields, water wells, flood plains, flood-ways, etc.

5. Erosion control strategies. (i.e., brow ditches, detention basins with details, temporary erosion control plan). Show sub-drains and make reference to any soil or geotechnical reports.

6. Indicate cubic yardage of cut and fill, over excavation and backfill, export and import.

7. Daylight lines.

8. Notation that no grading shall take place during the "rainy season" (Oct. 15th through April 15), unless specifically permitted by the Engineer.

9. Retaining wall calculations sealed and signed by Civil Engineer or Architect (if said wall is part of a building structure).

10. All proposed and existing easements for drainage, roadways, and utilities shall be shown and official record reference (book, page).

11. Benchmark (elevation) accurate to two decimal places and tied to USGS 1929 Datum. The Developer/Engineer shall establish a minimum of one permanent benchmark in each project. The design engineer shall provide a complete description as to the exact location of said mark and provide level notes as may be necessary to validate said mark.

II-5. COMPOSITE UTILITY PLAN ON SEPARATE SHEET(s):

1. Must be signed as approved by a representative of each utility.

2. Show all utilities, water, sewer, gas, telephone, electricity, cable TV, fire hydrants, and street lights. Show all utility services to each lot. Show all utility vaults, splice boxes, water meters, etc.

II-6. STREET DESIGN PLAN ON SEPARATE SHEET(s):

1. Show existing and proposed centerline profile with vertical curve data, stationing and all curb profiles.

2. Show all street dimensions and cross-sections. **Add note: "Structural section of street shall be determined by the "traffic index" and the "R" value of the subgrade soil".** However, the aggregate base thickness shall not be less than 6-inches.

3. Plan view should include all curbs, gutters, cross-gutters, catch basins, etc. Horizontal curves - BCs and ECs shall be labeled and stationed. Limits of paving shall be clearly indicated. All existing topography, trees, poles, structures, septic tanks/leach fields, water wells etc. must be shown.

4. Show all survey monuments, street name signs and traffic signs.

5. Roadway Geometrics - Geometrics and structural design of streets shall be in accordance with its classification, designated design speed and the specifications of the American Association of State Highway and Transportation officials (AASHTO, latest edition).

II-7. SEWER, WATER AND STORM DRAIN PLANS:

1. Sewer, water and storm drain design shall be combined on a separate sheet(s) but shall not be combined with street design sheets.

2. Show existing and proposed locations and design grade of all sewer mains and sewer laterals, water mains, services and fire hydrants, and storm drains and catch basins.

3. Show all manholes, gate valves, air releases, and blow-offs.

4. Show profiles of all water mains, sewer mains, and storm drains. Storm drain profiles shall show the hydraulic grade-line.

5. Show cross sections for all culvert and drainage structure locations.

II-8. ITEMS REQUIRED FOR PLAN-CHECK:

The improvement plan set shall consist of grading, street, sewer, water, storm drain and composite utility plans.

1. Two (2) sets of the improvement plans.

2. Two (2) sets of Hydrology/hydraulic computations.

3. Two (2) sets of bonding estimates using the City's cost estimating form with unit prices.

4. Two (2) copies of the final map and closure calculations.

5. One (1) set of reference maps used in the preparation of the final map.

6. Signed Plan Check and Inspection Agreement.

7. Survey cross sections as necessary.

8. Any other items as may be requested by the City Engineer.

II-9. APPROVED PLANS:

At such time as the consultant has made the necessary revisions, the original drawings shall be submitted for approval. No construction will be authorized or plan approved until such time as the Engineer or his designated representative signifies his approval by his signature on the title sheet of the original drawings.

Upon City Engineer's approval and signature of the original improvement plans, the Engineering consultant shall make three (3) complete blueline or electrostatic sets and one (1) reproducible copy on 4 MIL Mylar for the City. There shall be no alterations made to an approved set of plans unless such alterations are submitted to the City Engineer for approval.

II-10. CONSTRUCTION CHANGE ORDERS:

Approved changes shall be submitted to the City Engineer in triplicate. Said copies will be used by the Engineering Division for inspection during construction. If the proposed change is a major one, the entire set must be resubmitted, reflecting the proposed change. Engineering Division will approve the change order on the originals.

II-11. RECORD DRAWINGS:

During the progress of the work the consultant shall maintain one set of prints of the improvement plans showing all "As-Built" changes. Each "As-Built" change shall be approved by the Engineer before being made. This set shall be available on the job for inspection by the Engineer at any time. Upon completion of the work, the consultant shall make "As-Built" changes and return the original drawings to the Engineer prior to the City' s acceptance of the project. The originals shall be labeled "Record Drawing" with a date and signed by the project engineer.

II-12. LANDSCAPE PLANS:

Landscaping plans for all medians, parkways, detention basins, open spaces, or other areas to be maintained by the City, or the Landscape and Lighting District,
shall be prepared as part of the improvement plans and be of the same sheet size. subdivision Landscape Plans shall be prepared by a licensed landscape architect.